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ABSTRACT

This book is for the use of teachers, parents, and administrators who are planning to initiate a learning-by-tutoring project in their schools. In this teaching method, secondary school students tutor elementary students in basic skills. The goal is to enhance the learning and motivation of the tutors, in contrast to the practice in which the learning of the tutee is the primary focus. One of a series of seven documents on this subject, this book is a guide to setting up a tutoring project that conforms to the regulations established under the Elementary Secondary Education Act (ESEA) Title 1. (JD)

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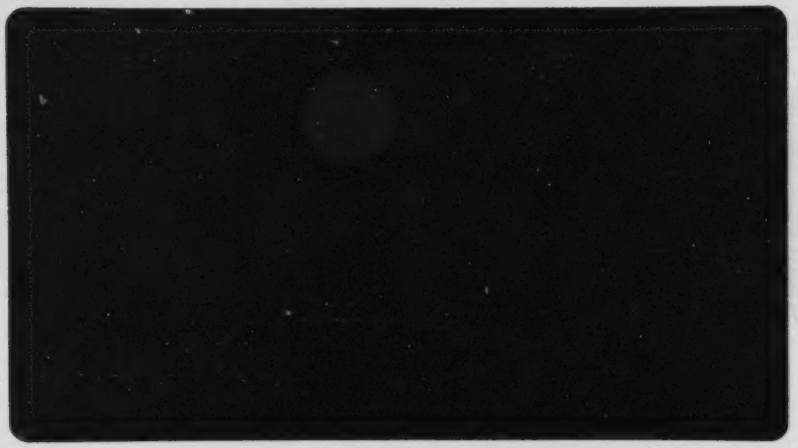

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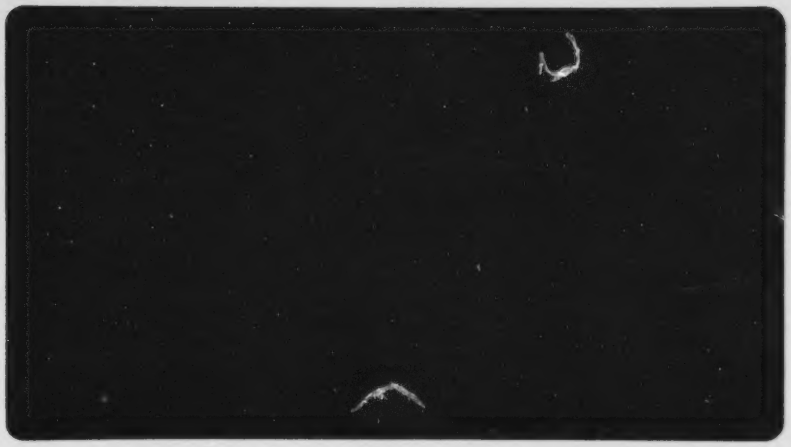

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CSE Report on Tutoring #2:

Tutoring and ESEA Title I

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November 1977

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PREFACE

The National Institute of Education (NIE) is the agency of the Federal government that is specifically funded to conduct research in education. When the Education Amendments of 1974 were enacted, NIE was directed to prepare studies of compensatory education in order to assist Congress in making decisions regarding the future of efforts to improve the education of disadvantaged youth. The studies were mandated with a view to the reauthorization deliberations for Title I of the Elementary and Secondary Education Act (ESEA), scheduled to take place in 1977.

In connection with these studies, contracts were let for surveys of existing compensatory education programs, analyses of existing data on program effectiveness, research into the implications of alternative criteria for fund-allocations, and research on the administration of compensatory education. In addition, NIE requested "a systematic and interdisciplinary effort to explore alternatives to current practices in education." Four contracts were let for "Alternative Designs to Contrast with Current Practice in Compensatory Education." Each contractor was to produce "a plan of action which is deemed superior to current practice and not prohibitive in cost of implementation."

One of the contracts went to the Center for the Study of Evaluation for a proposal concerned with cross-age tutoring as a means of enhancing the learning and motivation of the tutors (in contrast to current practice in which the learning of the tutee is the primary focus).

An interdisciplinary committee of ten persons was established to meet regularly at UCLA. In addition to working with this committee, project staff undertook to develop an examination of current school practice by means of site visits and detailed questionnaires in schools conducting cross-age tutoring projects. Because the persons who ultimately implement innovations are the instructional staff, it was important to obtain their reactions to the proposed projects. Presentations were made at faculty meetings in inner city schools, followed up with questionnaires, and a small conference was held at which it was possible to obtain more detailed feedback.

Following these activities, an interim report was submitted to nine reviewers selected by NIE. Committee members and reviewers subsequently met together for two days of round-table discussions.

The production of a single final report would have been an inappropriate way of presenting the body of information that project staff had at hand following these activities. For example, much information that would be of interest to teachers and parents planning or running tutoring projects would not be of interest to policy makers and vice versa. Furthermore, although the position had been reached that one particular kind of tutoring project--the Learning-Tutoring Cycle (LTC)--should be recommended for widespread implementation in Title I projects, there was much to be said about the planning of tutoring projects in general and about highly innovative projects which, although not as immediately feasible as the Learning-Tutoring Cycle, could have greater impact if implemented.

In view of this need to speak to various audiences about diverse topics such as theories, research, policy, practical planning and innovative ideas, seven separately bound volumes were prepared: The CSE Reports on Tutoring.

Report A. The Learning-Tutoring Cycle: Overview

Report #1 Setting up and Evaluating Tutoring Projects

Report #2 Tutoring and ESEA Title I

Report #3 A Survey of Tutoring Projects

Report #4 Tutoring: Some New Ideas

Report #5 An Analysis of the Literature on Cross-Age Tutoring

Report #6 Tutoring and Social Psychology: A Theoretical Analysis

These seven reports provide an information base and a rationale for actions at both federal and local levels.

At the local level, the six numbered reports represent a resource for project planning. Three reports--the Survey (#3), the Literature report (#5), and the Social Psychology report (#6)--bring together information from a wide range of sources to provide background knowledge concerning current practice, the perceptions and recommendations of practitioners, past projects, research, and relevant theories.

This background knowledge can inform the design of tutoring projects as well as provide a basis for judging the likelihood of success of such projects. For example, the Social Psychology report demonstrates that many of the effects of tutoring widely noted by practitioners, but not yet established by research on tutoring, have their parallel in recognized effects in the field of Social Psychology. Social-Psychological theories thus suggest variables that can be assessed in research on tutoring and lend support to the perceptions of practitioners.

The three other numbered reports apply the background information to practical school planning concerns. Report #1, through a presentation of step-by-step planning questions, deals with the process of setting up and evaluating tutoring projects in general. Report #2 introduces the ESEA Title I legislation and considers the planning steps, as per Report #1, in relation to the design of an LTC project in conformity with Title I regulations. Report #4 deals with extensions of the idea of learning by tutoring to more ambitious projects, representing more substantial changes in schooling than are involved in the LTC project. Report #4 also documents the reactions of instructional staff and some Title I parents to the Learning-Tutoring Cycle and other proposed kinds of projects.

For the national level, Report A provides an overview of the project and recommendations for action. The actions recommended are designed to put the ideas of this study to the test, to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

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This study has benefitted immeasurably from the thoughtful contributions of many individuals. Members of the committee represented diverse backgrounds and professional experiences, and their deliberations were invariably stimulating and challenging.

Members of the Committee

- Harry F. Silberman (Co-Principal Investigator)
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We were fortunate in having two ex-officio members of the committee who attended meetings because of their long-standing interest in Tutoring: Elbert Ebersole, formerly Principal, Soto Street Elementary School and now a developer of materials for cross-age tutoring in reading; and Arthur Elliott, a professor on sabbatical leave from Simon Fraser University, Canada. Their contributions were of great value to the project staff and to the committee.

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  High-Scope Education Research Foundation

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Richard Mallory of the National Education Association was so kind as to comment extensively and most helpfully on a draft report. The incredible efficiency of Donna Anderson Cuvelier and her great interest in the project provided indispensable daily support. For contributions and guidance throughout the study, the author thanks most particularly Harry F. Silberman and Jack Schwille.

CHAPTER I
INTRODUCTION

This book is intended for use by teachers, parents, and administrators who are planning "Title I" projects. It is designed to be used in conjunction with CSE Report on Tutoring #1: Setting up and Evaluating Tutoring Projects. The planning steps in that guide are considered here in the context of designing a recommended project which conforms to the legal requirements made by Title I of the Elementary and Secondary Education Act (ESEA).

The recommended project is the "Learning-Tutoring Cycle" (LTC) which is briefly described later in this introduction and more extensively specified in Chapter IV. Following this introduction (Chapter I), Chapter II provides a layman's introduction to ESEA Title I, and Chapter III presents the planning steps. Some readers may wish to work with no more than Chapters II and III, "taking it from there" to design their own projects. Others may wish to consider adopting what we have called the defining characteristics of the Learning-Tutoring Cycle. These key characteristics, presented in Chapter IV, provide a clearly defined, auditable project. Chapter V presents a recommended implementation strategy which stresses the professional involvement of the instructional staff in planning and development of the project along with the extensive use for formative and summative evaluation. Chapter VI presents recommendations for federal actions that will ensure an adequate test of the Learning-Tutoring Cycle as a means of enhancing the achievement of educationally deprived students.

For group planning of Title I projects, it is recommended that some persons take a responsibility for working from Report #1 and others work with this report. Yet others may provide background information on research (Report #5),

theory (Report #6), and current practice (Report #3 plus Title I evaluation reports where relevant). Reactions of teachers and parents to the proposed LTC project can be found in Report #4 along with ideas for optional components for tutoring projects. The various reports in this series provide members of a planning group with a basis for informed discussion and effective planning of tutoring projects.

The Learning-Tutoring Cycle: A Brief Overview

Three kinds of tutoring projects can be distinguished:

- Teacher Aide projects in which older students ("tutors") work as aides in the classrooms of younger students, assisting the teacher in a variety of ways.
- Tutorial Service projects in which the needs of younger children are assessed, and then tutors are found who can help the younger students. The focus in a Tutorial Service project is on providing a service to tutees to ensure their learning.
- Learning-by-Tutoring projects in which the needs of older students are assessed, and these students are then assigned tutoring tasks which meet their needs so that they learn from the activity of tutoring.

If we use the term "tutoring" rather broadly to mean the rendering of assistance on a one-to-one basis, projects with a variety of goals can be imagined as falling into the last category, "Learning-by-Tutoring." For example, in a recent survey (Report #3) a project was reported in which older students were assigned to tutor at a school for the retarded primarily to enhance their empathy and understanding of the retarded. In another project, students worked with infants in a day-care center to assist in their own learning of child development and baby-sitting skills. In yet another project, "tutors" were assigned to teach drama to increase their interest in drama. And one project was instituted to cure boredom by involving students in the teaching of various academic subjects. In these projects, various needs of the tutors were met by the assignment of tutoring.

An example of a Learning-by-Tutoring project which focussed on the academic needs of the tutors was provided by Hoffmeister's work (1973). Ninth-grade inner-city students in need of remedial work in reading spent the first half of a school year preparing to be tutors and the second half as tutors to seventh graders in need of reading instruction.

A "Learning-Tutoring Cycle" is a particular kind of Learning-by-Tutoring project (see Figure 1). In the Learning-Tutoring Cycle (LTC), the need of tutors to learn academic or basic skills is met by instructional procedures involving relatively short cycles each consisting of a period of learning followed by a period of acting as a tutor. The short cycles are designed to ensure concentration of effort on a limited set of objectives in each cycle and to set aside regular blocks of time for instruction of the tutors by their teacher, thus ensuring that the tutors' progress through an appropriate curriculum. The periods of tutoring provide tutors with a chance to explain and practice what they have been learning, thus promoting their own mastery of the objectives and helping a younger child to learn. Cycles will typically range from a few days to a few weeks.

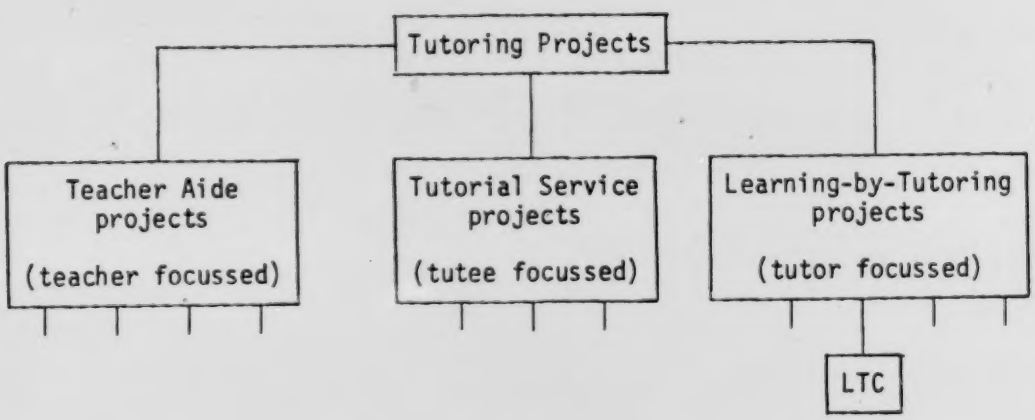


Figure 1. Kinds of Tutoring Projects

The focus on the needs of the tutors in planning a Learning-Tutoring Cycle does not mean that the needs of tutees are ignored. Tutors are unlikely to remain motivated to teach if they find their tutees do not need their help or do not benefit from their help. Consequently, it is essential that tutees be located who can benefit from the tutoring provided. In this way the learning needs of both tutors and tutees will be served by an LTC project. Both tutors and tutees can, therefore, be counted as recipients of Title I support in such a project.

The LTC is strongly recommended as a method of instruction for secondary students, whether they tutor in their own secondary school or at a nearby elementary school. Will it always be possible, in that case, to match the needs of tutors and tutees? There is little doubt that it will be, especially in the area of basic skills, the focus of most compensatory education projects. In reading, for example, the explanation and practice of phonetics and word analysis begins very early in schooling and yet forms a basis for remedial work at the secondary level. In mathematics, to take another example, fourth graders can be introduced to basic arithmetic concepts such as fractions which ninth graders are often far from having mastered. The same applies to decimals, percentages, etc. In such a situation, if ninth graders became ready to teach more difficult work, a shift could be made to having tutees drawn from the fifth, sixth, or seventh grades rather than the fourth. It can be readily observed by examining textbooks for various grade levels that there is a good deal of repetition in the curriculum, necessarily so, since few peoples learn a topic once and for all time at their initial exposure.

As can be seen from other reports in this series, there are strong indications that projects such as the Learning-Tutoring Cycle will provide a wide range of benefits including higher academic achievement and positive attitudes towards schools, teachers, self, and other pupils. It will become apparent in subsequent chapters that the LTC is very well suited to the demands currently placed on Title I projects.

CHAPTER II
ESEA TITLE I

This chapter provides a brief layman's introduction to some key features of the federal legislation which provides funds for "compensatory education." It will be particularly useful to parents and others who are unfamiliar with this legislation and the regulations that result from it. Persons already well aware of ESEA Title I regulations may wish only to read the summary and then proceed to Chapter III. This description of ESEA Title I is provided only as an aid to understanding, and it does not in any way constitute an official interpretation. The regulations to be described apply to all Title I projects. Their implications for the design of tutoring projects will be discussed in Chapter III.

Background

The Elementary and Secondary Education Act (ESEA) was passed by the U.S. Congress in 1965. Representing the first time the federal government had been able to channel significant monies into education, ESEA was part of the "great society" legislation. Various titles of the Act provided aid under various categories. For example, ESEA Title VII provides funds for bilingual education projects, Title VIII for drop-out prevention. By far the largest appropriation of funds was made under what is now known as Title I. The relevant declaration of policy by Congress reads as follows:

> In recognition of the special educational needs of children of low income families and the impact that concentrations of low income families have on the ability of local educational agencies to support adequate educational programs, the Congress hereby declares it to be the policy of the United States to provide financial

assistance to local educational agencies serving areas with concentrations of children from low income families to expand and improve their educational programs by various means which contribute particularly to meeting the special educational needs of educationally deprived children.

Once passed by Congress, the intent of the ESEA Title I legislation had to be translated into detailed regulations governing how the funds were to be allocated and expended. This translation is delegated by Congress to a federal agency such as, in the case of education, the Office of Education (OE). The regulations, which undergo modifications periodically, are first published as "proposed regulations" in the Federal Register. (Some libraries keep complete files of the Federal Register, and copies can also be obtained by writing to the U.S. Government Printing Office, Washington, D.C. 20402.)

After time has been allowed for comments and consideration, "final regulations" are adopted by the Office of Education and published in the Federal Register (FR). Annually, all adopted final regulations are collected together and published in Title 45 of the Code of Federal Regulations (CFR). (This procedure for publishing proposed regulations and allowing time for comments is required by another Act of Congress: the General Educational Provisions Act (GEPA)).

At the time of writing, the September 28, 1976 issue of the Federal Register (41 FR 42894)* published the latest regulations adopted by OE. The regulations are organized in sections as, for example:

Section 116: Provisions applicable to all grantees

Section 116(a): Provisions applicable to Local Educational Agencies (LEAs)

The Title I statute (i.e., the written Act) is reprinted as an appendix in that edition of the Federal Register.

*Volume 41 of the Federal Register commencing on page 42894.

The regulations, which you will hear referred to as "the federal regs." or just "the regs.," are legally binding. That is, they have the "full force and effect of law." If an LEA uses Title I funds in a way that violates these regulations, it could possibly be required to pay back the funds. Such a consequence would be set in motion by an "audit exception," a situation in which an audit team reports that it has not been satisfied that funds are being expended in compliance with regulations. So, Title I regulations must be in compliance with federal regulations.

The regulations, however, are not sufficiently detailed to govern the variety of situations which can arise and may require decisions as to what does or does not constitute compliance. Consequently, OE develops "criteria" in the course of implementing the regulations. The criteria are published by the Office of Education as "program guides" or "program instructions" and are generally sent to state educational agencies (SEAs) and local educational agencies (LEAs). So long as these pronouncements from the Office of Education are consistent with the intent of the Title I statute and the published regulations, they too will generally be backed up by courts of law, although clearly SEAs and LEAs must have received the documents to be cognizant of them. In addition to these formally binding documents--statutes, regulations, and OE-developed criteria--policies are explained and promulgated by such means as OE "Handbooks," "notices," Review Team reports, and correspondence of various kinds with SEAs.

It is the State Education Agency that is responsible for administering Title I policy as described by the Office of Education. The SEA is notified by the Office of Education of the funds available for Title I projects in each county of the state, a figure arrived at on the basis of the concentration of low income families, i.e., on a poverty criterion. Within this allocation, the SEA then distributes funds to LEAs which submit acceptable applications.

The LEA is responsible for planning and running Title I projects. An LEA may run several Title I projects which together comprise the LEA's Title I program. SEAs must approve or disapprove LEA applications, monitor projects and report annually to the office of Education.

Requirements which LEAs must Satisfy in order to Receive Grants under Title I

Detailed interpretations of requirements in relationship to the planning of LTC projects will be considered in Chapter III, but below some major requirements are presented and explained in order that the terms can simply be referred to as needed in Chapter III.

General Aid Prohibition

Title I provides categorical aid specifically for the "special educational needs of educationally deprived children." This means that Title I funds cannot be used for general school improvements even though these would benefit to some extent the educationally deprived. Title I dollars are to be spent to provide specific benefits to specific children. Thus a school nurse or counselor cannot be provided for general school use, nor can equipment be purchased or buildings constructed for the general benefit of the entire school, even though these improvements might help educationally deprived children to some extent.

Eligibility and Targetting

Exactly which students are to benefit from Title I spending? Students are eligible to participate in Title I projects if they meet certain criteria. But since not all eligible students can be served due to lack of funds, LEAs must select from among the eligible students those who will participate in Title I projects; these are called the targetted students. Eligibility is established first for school attendance areas (this includes both public and private schools) on economic criteria, i.e., on the basis of a concentration of low income families. Once a school attendance area has been established as eligible, the criterion for eligibility for individual children in the schools for that attendance area becomes educational deprivation. Thus a child who is not from a low income family but who lives in a Title I eligible area may be eligible for a Title I project if he or she is "educationally deprived." The

term educationally deprived has been widely interpreted as meaning scoring below grade level on a standardized test of achievement. (This criterion is discussed in Appendix A.)

Before the actual target students are selected, a target group must be identified for each Title I project being planned. A target group is defined by the students to be served (e.g., by grade level or age) and the content area to be taught such as reading, mathematics, language arts. In selecting the target group--such as ninth grade mathematics students--it is not necessary to try to present test scores to show that ninth graders are further behind in mathematics than second graders are in reading and should thus be the preferred target group. The target group may be chosen on the basis of local judgment that there is a chance of success in working with that group. However, once the target group has been selected, students in that group must be selected for participation in the project (i.e., must be targetted) on the basis of greatest need. It is in that selection process that test scores are generally used.

The regulation stating the "greatest need" requirement is Section 116.17(f):

> The project for which an application for a grant is made by a local educational agency should be designed to meet the special educational needs of those educationally deprived children who have the greatest need for assistance.

The means to be employed to select target groups is not clear from this regulation, but an OE Program Guide (#44) mentions the judgment of possible success in selecting among groups:

> Title I resources should be concentrated on those children who are in most need of special assistance. Normally this process will involve determinations of both the needs of individual groups of children and the possibilities of success in working with these groups.

In summary, a school attendance area is eligible on the basis of a concentration of low income families within the attendance area. Groups of students (target groups) may be selected for possible project participation on the basis of possibilities of success. Within the target groups, individual project participants (target students) must be selected on the basis of "greatest need" which is generally interpreted as "furthest below grade level" on standardized achievement tests.

Concentration

When it was mentioned above that not all eligible children could be served given the present level of Title I funding, the reader may have wondered what proportion of eligible children should be targetted. For example, could small amounts of money be expended on many eligible children rather than spending larger amounts on only a few targetted children? The Title I statute §141(a)(1)(B) requires projects to be of "sufficient size, scope and quality to give reasonable promise of substantial progress," and the regulations state (Section 116.18(e)):

> Applications for grants...are to be concentrated on a limited number of projects and applied to a limited number of educationally deprived children so as to give reasonable promise of promoting to a marked degree improvement in the educational attainment...of children.

Thus it is a legal requirement that funds be expended to give "reasonable promise" of leading to a "marked degree of improvement." It is the intent of Congress that projects avoid providing services that are so thinly spread as to have negligible impact.

Systematic Planning

Concentration of funds is only one way in which the regulations attempt to ensure projects of "reasonable promise." Considerations, other than dollar amounts, must suggest the possibility of success for a project. The regulations have been designed to promote the use of systematic procedures in the planning and implementation of projects, presumably in the hope that systematic efforts will lead to substantial positive effects. These systematic procedures are considered in the following paragraphs under the headings "needs assessment," "parent involvement," "use of research and evaluation findings," "project design," and "evaluation."

Needs assessment. By specifying that projects should "contribute particularly to meeting the special educational needs of educationally deprived children," Congress implied that special needs existed, should be identified, and that projects should be planned to meet those needs, i.e., project design should

relate specifically to assessed needs. The regulations (§116.18(b)) require that each LEA application

> provide an assessment of the special educational needs of the educationally deprived children who would be eligible to receive benefits.

Assessment of achievement is the way one kind of educational need is established. There is also the question, however, as to why achievement is low; and in connection with that question, other "special needs" may be identified. For example, with regard to tutoring, it may be the opinion of teachers that lack of concentration in school on assigned work in basic skills is causing low achievement. If forming older and younger students into tutor-tutee pairs is seen as a way of getting children to concentrate more effectively (i.e., to spend more time "on task"), then tutoring is a way to meet both the clear need for instruction in basic skills and the special need for a method of schooling that improves concentration (or "motivation" or "on-task behavior," or whatever term is preferred).

Parent involvement. Another aspect of the desire for projects that can reasonably be expected to be successful relates to the involvement of parents. GEPA (section 427) authorizes the Commissioner of Education (who heads the Office of Education--OE) to issue regulations regarding parent involvement in any federal education program if it is thought that "parental participation at the state or local level would increase the effectiveness of the program in achieving its purposes." Parents can act through Parent Advisory Councils established at each project school and also district-wide.

Use of research and evaluation findings in planning. Another method of ensuring reasonable expectation of success is to plan a project with full awareness of relevant research, pilot projects, demonstrations, and evaluation reports from similar projects. Thus the Title I statute (§141(a)(10)) states that LEAs must adopt

> ...effective procedures...for acquiring and disseminating to teachers and administrators significant information derived from educational research, demonstration and similar projects, and for adopting where appropriate, promising educational practices developed through such projects.

To ensure that LEAs review this kind of information in planning a project, §116.44 of the regulations requires that on their application for Title I funds

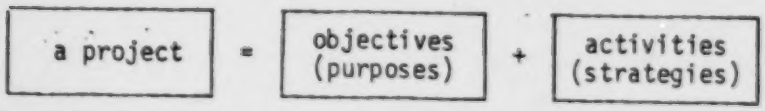
> an applicant...shall describe the methods to be used by the applicant for reviewing, selecting and disseminating to teachers and administrators significant information on the latest developments and most recent experiments in education so that such information may be available for use in program planning and operation.

The CSE Reports on Tutoring can provide planners with much of the information relevant to tutoring projects. To these reports should be added current Title I evaluation reports and meetings with other Title I personnel running tutoring projects when such can be arranged.

Project design. As mentioned above, Title I is not a general aid program. Title I funds are to be expended on discrete projects. Thus the regulations state:

> An application for a grant...shall set forth a project for educationally deprived children...which...shall have been designed specifically to meet educational needs of those educationally deprived children (45 C.F.R. §116.17(a) Emphases added).

The impression conveyed by various documents is that a project is essentially a set of measurable objectives and strategies for meeting these objectives. Thus 45 C.F.R. §100.1 defines a project as "an activity or set of activities designed to meet the purposes of the applicable Federal program," and §116.1(a) of the regulations requires Title I applications to "describe the objectives of the project." Thus



Project design, therefore, involves the specifications of objectives or purposes and the specification of activities designed to achieve the objectives.

Objectives are widely accepted as being statements of student performance. A project objective is an objective for its students such as a specified level of performance in mathematics. The objectives of Title I projects should be selected from basic achievement areas since the purpose of the entire program is improvement in educational attainment (section 116.18(e), quoted above). The activities must be directed towards meeting "needs" so that, when the needs are met, the project objectives can be reached by the target students.

To justify a project design, then, assessed needs must be met by project activities in such a way as to give reasonable expectations of leading to the attainment of project objectives. In the case of tutoring projects, for example, there must be reason to believe that the tutoring activities (project strategies) will lead to improved educational attainment in specified areas, that is, to the achievement of project objectives. If tutoring is directed towards project objectives, and its use is seen as meeting motivational as well as academic needs of students, then its adoption as a Title I project strategy is well justified.

Evaluation. Good plans are not perfect guarantees of success. To find out if projects are succeeding, "evaluation" is required. Thus the Title I statute (§141(a)(6)) requires LEAs to formulate

> effective procedures, including provisions for appropriate objective measurements of educational achievement...for evaluating, at least annually, the effectiveness of the programs in meeting the special educational needs of educationally deprived children.

In planning for evaluation, local projects need to keep two distinct audiences in mind. One audience is national. The Office of Education, through SEAs, needs data on projects, and this may require the administration of certain tests at specified times in order to obtain comparable information from all projects. Meeting the needs of this kind of evaluation will be largely the responsibility of the LEA in following instructions from the SEA. Most important locally, however, is the local audience. Teachers, administrators, and parents need constantly to evaluate the project activities to ensure project quality. This local on-site evaluation should be specifically designed for the particular local project.

Project Costs

This chapter began the introduction to ESEA Title I by noting the General Aid Prohibition. Following that setting of the general context in which Title I projects operate, we have seen that the Act requires systematic procedures to ensure that projects are planned so as to be "of sufficient size, scope and quality" as to give reasonable hope of "substantial progress" toward meeting the "special educational needs of educationally deprived children." We conclude the discussion by considering what part of the costs of a project can be paid for by Title I funds and what part must be paid for by State and Local funds which normally support the school program.

This question might seem at first blush to be a matter for accountants rather than educators, but such is definitely not the case. Costs are allowable on the basis of how the money is used, and this involves a consideration of the educational design of the project. It will be necessary, in designing a tutoring project that conforms with Title I legal requirements, to pay particular attention to what are called the "supplement not supplant" and "excess cost" provisions.

Title I funds are to be added on to regular expenditures, so that they supplement the services normally provided. They may not be used in place of regular funds, thus supplanting regular service. Title I funds may be used to pay the excess costs associated with rendering special assistance to the target children, but target students must continue to receive resources for the same level of services that non-target students receive. Title I services are to be additional to this basic level of services.

Does this mean that Title I students must be given additional time in school or additional time spent on academic instruction? Not necessarily. The way the act has been interpreted implies that quality of the time allocated is taken into account. For example, it might be thought that if the Title I services in mathematics were provided to Title I target children on a pull-out basis during their regular time for math instruction, this would be a case of supplanting rather than supplementing. Target pupils would be receiving services in place of the regularly provided school program rather than in addition to the regular program.

Furthermore, the non-Title I pupils would be benefitting from the reduced class size. Whether or not such a project is acceptable and avoids supplanting, seems to hinge on two considerations: whether the Title I service provided by the pull-out project are specially designed to meet the education needs of the target pupils (a question of project quality of design and implementation), and whether the regular classroom teacher retains responsibility for the Title I children and coordinates his/her instruction with the Title I project.

If the project is specially designed to meet assessed needs, and if the classroom teacher retains control and coordinates with the pull-out project, the Title I child is considered to be still receiving the regular school services, and the pull-out project is seen as supplementary. In such a situation, a pull-out project is permissible, and its entire cost can be born by Title I funds. The regular classroom teacher is providing the basic school program and overseeing the child's progress despite the fact that the target child is "pulled out" of the regular class for a percentage of the time in order to receive the specially designed Title I project services. This kind of arrangement for the provision of Title I services will be called a Coordinated or Type #1 project. It has generally been considered that a child removed from class for more than fifty percent of class time cannot be receiving adequate supervision from the regular teacher. Thus pull-out Coordinated projects should probably not absorb more than 50 percent of class time for target children.

It was found in meetings with elementary school teachers (CSE Report on Tutoring #4) that they generally do not want tutoring to replace their own instruction in basic skills, but to be used as a supplementary source of instruction. This indicates that a Coordinated (Type #1) project would probably be most acceptable to tutees, with the classroom teacher retaining control and supervision of tutees' progress.

Furthermore, this arrangement would allow for flexibility in selecting tutees for tutors who need to teach to a particular objective. Tutees could be pulled out from a variety of classes on the basis that they have the greatest need to learn the particular objectives that tutors are available to teach in the current cycle. After receiving tutoring in the objective, tutees are

returned to class and to the direct supervision of their regular teacher. While tutees are back in class, tutors are being trained for another cycle of tutoring.

Instead of a Coordinated, Type #1 project, a student may have his or her regular program completely replaced in one or more subject areas by a Title I project. The student's progress in these areas is then the responsibility of Title I personnel. This will be called a Distinct or Type #2 project. In the case of a Distinct project, the local and state funds that would have been spent on the child in a regular program must help to pay for the replacement program so that, in addition to Title I services, the child continues to receive the level of state and local services to which he or she is entitled. Title I funds, therefore, can only pay for costs of the Distinct project that are in excess of normal costs.

For tutors, the LTC project can replace regular academic classes, i.e., be run as a Distinct (Type #2) project, since the LTC represents a complete method of instruction for tutors. However, if target students are not brought together to form an entire class, the project may have to pull out target students from a variety of classes to participate in the LTC project intermittently. The cycles of learning and tutoring would have to be closely coordinated with instruction in each of the classes from which students were pulled to participate in the LTC Title I project.

Such projects are administratively more difficult, however, and pull-out projects are not recommended for tutors for another reason: Several successful, well-liked Title I projects have found students nevertheless reluctant to leave regular classes to participate because they do not like to ruin regular activities (Stearns, 1977).

The above discussion of Coordinated (Type #1) projects versus Distinct (Type #2) projects relates to the use of Title I funds, as supplements, to project expenses. The school district must take care to ensure, however, that none of its practices in allocating money or resources discriminates against Title I target students. The Title I target students must not be denied any

services because they are receiving Title I services. If, for example, district personnel decide not to develop programs for the mentally gifted in project area schools, but only in non-project area schools "because Title I schools get so much already," such a decision is a violation of the regulations. Project and non-project schools must be treated alike.

Another situation to guard against occurs when project and non-project schools have similar services, but state and local funds pay for the services in non-project schools and Title I funds pay for the services in project schools. This situation would imply that Title I funds are not being used as additions or supplements to regular levels of support and are therefore not in compliance. Thus it would be improper for Title I funds to pay for a kindergarten program in project area schools that was provided by state and local funds in other schools in the district. However, Title I funds could pay for the excess costs of a specially designed kindergarten for target children. Similarly, if a district provided the services of school nurses, their time would have to be spread among all schools in the district. They could not remain in non-project schools while Title I funds provided nurses in project area schools.

It is a strength of the Learning-Tutoring Cycle that it constitutes a clearly different and distinctly auditable process, thus enabling its justification as a Title I project (i.e., as an additional or supplementary service) to be well established. An example will make clearer the importance of this qualitatively different nature of the instructional process in the LTC.

Several school districts in one state provided Title I reading services in the form of Distinct projects: that is, pupils were removed from regular reading classes to receive instruction in smaller classes. An OE Review Team noted that the classes were educationally little different from the regular classes: they ran for the same time, and the same materials were employed in each. In such a situation, Title I funds have simply been used to reduce class size, a general aid to the school district. This use did not appear to constitute a specially designed program to meet the special educational needs of educationally deprived children. The lack of distinctiveness of the Title I services was a factor in the OE Review Team's reservations.

This is not to imply that Title I projects must be different just for the sake of being auditable. An important point is that regular programs have presumably been failing to meet the special needs of targetted children, so one might more reasonably expect success with a specially designed, qualitatively different approach. Auditors apparently consider this in their efforts to guard against general aid and supplanting violations.

Summary

To justify the use of Title I funds, there must be a systematic planning of either Distinct or Coordinated projects designed to improve substantially the educational attainment of students who are the furthest behind.

The present chapter began with a description of the legal framework which governs implementation of the Elementary and Secondary Act. Current eligibility and targetting procedures were then explained, along with requirements designed to enhance the likelihood of project success: concentration of funds and systematic planning.

With regard to LTC projects, it was noted that these represent clearly auditable specially designed projects that could probably best be implemented as Coordinated (Type #1) projects for tutees. For tutors, either Distinct (Type #2) or Coordinated (Type #1) projects could be designed.

CHAPTER III
PLANNING A LEARNING-TUTORING CYCLE IN CONFORMITY WITH ESEA TITLE I REGULATIONS

In this chapter, the seven steps presented in CSE Report on Tutoring #1: Setting up and Evaluating Tutoring Projects are followed with the discussion at each step focussing on how Title I requirements influence the planning of a Learning-Tutoring Cycle. Further details of a Learning-Tutoring Cycle are presented in Chapter IV. Meanwhile the reader will recall that the LTC is a method of instruction which involves older students in short periods of classroom learning followed by short periods in which they act as tutors to younger students (see Introduction).

The seven steps presented in Report #1 are as follows:

One: Assess Context

Two: Specify Goals

Three: Select a Model or Models

Four: Select Various Project Characteristics

Five: Define the Tutoring Task

Six: Assign Responsibilities

Seven: Plan for Evaluation

Within each step several questions are considered. These questions vary in their relevance to LTC projects, but each will be considered here in order to facilitate articulation between this report and Report #1.

As mentioned in Chapter I, it is recommended that at least one member of a planning team work from Report #1, and at least one other member work from this report. As decisions are made regarding the particular project being planned, these decisions should, of course, be recorded. However, much as we would all like planning to proceed in a step-by-step fashion, each step concluded before the next one is begun, it may often happen that decisions must be made only tentatively at one step, to be reconsidered at a subsequent step or in the light of further information.

Indeed, the very use of this book may, in some situations, represent a decision taken out of sequence, in that an activity--tutoring--is perhaps being considered as a solution before the problem has been defined by a needs assessment. If, however, CSE Reports on Tutoring #s 3, 5, and 6, or other sources of information about tutoring have been consulted, then the adoption of the idea of tutoring may have arisen from careful consideration of relevant research findings, as required by Title I procedures (see Chapter II).

We now turn to the planning steps. The value of following planning steps lies primarily in ensuring that a full range of possibilities and options is considered.

STEP ONE: ASSESS CONTEXT

Question 1: *Are you going to consider cross-school projects, within-school projects, or both?*

As explained in Chapter II, given that certain children in a school district are eligible for Title I services, but that all such children cannot be served due to lack of funds, the school district has the responsibility for selecting target groups and then identifying children within those groups who will be targetted. Furthermore, in considering schools that might be involved, private schools in the area must be considered since Title I funds are to be provided to children in the target group who are most in need, regardless of the school they attend.

If there seems to be a likelihood of including more than one school in the project, then parents, teachers and administrators from all the possible schools should participate in future planning activities, and the needs of children in target groups in all the possible schools should be assessed.

Selection of target groups: What grade levels shall be served? It was pointed out in Chapter II that target groups may be selected on a judgmental basis. It is not necessary, for example, to establish that secondary school students are further behind grade level than elementary school children in order to decide that secondary students shall be a target group. For example, if planners suspected that an LTC project involving ninth graders tutoring fourth graders in mathematics had a high chance of leading to substantial improvements, then ninth and fourth graders could be the target group.

Attention must be paid in selecting target groups to the question of whether or not secondary students are to be involved. In the past, Title I funds have concentrated on "early intervention" strategies, serving primarily the

elementary school grades. It was felt that if pupils "got off to a good start," there would be fewer problems later. However, this strategy has been strongly questioned recently.

Concentration of Title I funds in elementary schools has not resulted in problem-free secondary schools; many students in junior and senior high schools continue to show serious deficiencies in basic skills. These students are clearly in need of compensatory education if they are to leave schools in possession of acceptable levels of competencies. Furthermore, the social problems of uncooperativeness in school, truancy, delinquency, and vandalism are probably related to the general level of disinterest that prevails in secondary schools. These social problems further emphasize the need for developing effective programs that attract and motivate disadvantaged secondary school students.

Furthermore, current evidence suggests that secondary school compensatory education is probably as effective, if not more effective, than early intervention: A survey of ESEA Title I state reports led Larson and Dittman (1975) to state "the study suggests that compensatory projects in grades 7-12 are at least as effective as, and perhaps more effective than, those in grades 1-6 at moving disadvantaged students towards national reading test norms."

It is recommended then, that secondary school students be the tutors in LTC projects. (For simplicity, this report will proceed to assume that tutors are secondary pupils. However, it is quite possible to run a Learning-Tutoring Cycle with elementary pupils as the tutors.)

The crucial factor in deciding from what grade level or levels tutees will be drawn is the necessity of matching tutor and tutee learning needs. Once the curriculum that tutors will follow has been outlined, tutees must be selected to whom the work can be appropriately taught. The appropriateness for tutees of the work to be tutored can be assessed by testing, by asking teachers, or by examining textbooks and curricula for various grade levels. In the course of the project, the formative evaluator should check tutee selection procedures and revise them if necessary.

There is another aspect to the selection of grade levels. We had suspected that tutoring within a secondary school might be fraught with embarrassment or result in more socializing than learning; but evidence from the survey (Report #3) suggested that this supposition was in error. No general rule can be stated at present. Formative evaluation at each site is required to provide the best evidence of effective grade-level combinations for that site.

Question 2: *What resources are available?*

In planning a Title I project, this question must not be considered at an early stage. The requirement for a Title I project is that it is designed to "best" meet the educational needs of educationally deprived children. Effective services must be designed and then a shortage of resources must be dealt with by providing the services to a limited number of students most in need, i.e., by targetting.

Question 3: *What constraints must be considered?*

The legal framework for Title I projects must be fully considered in planning an LTC project for which Title I funds are to be used. This legal framework demands of all projects systematic planning, parent involvement, evaluation, and dissemination. The Title I legal framework was described in general terms in Chapter II, and specific elements will be discussed as they apply to subsequent planning steps.

STEP TWO: SPECIFY GOALS

Question 4: *For whom are projects to be planned?*

Once target groups have been selected in the public and private schools of a project area, the students for whom projects are planned must be those "most in need of assistance," which has generally been interpreted as meaning those furthest behind on standardized, norm-referenced achievement tests. This criterion must be applied to both the tutors and the tutees. Since the needs of students have to be assessed, and a project planned to meet these needs, use could well be made of criteria-referenced tests to rank order students on each objective, thus identifying needs related to various specific competencies. Norm-referenced tests have, however, commonly been used to identify students furthest below grade level (excluding the retarded). (See Appendix A for further discussion of norm-referenced versus criterion-referenced tests.)

Because the step of targetting pupils is a crucial one in complying with the law, a careful record of the process should be maintained and should be available for audit. School records should contain, for each target group:

a. a master list of eligible pupils

b. the scores which show the pupils to be eligible, by subject area

c. indications of which students participated in which Title I projects

d. notes on the criteria used to select eligible pupils and participants (target) pupils

Question 5: *What goals are most important for tutors and for tutees?*

A goal is a general aim whereas an objective is a specific, measurable behavior. The goal of a Title I project is specified by the regulations: namely, marked improvement in "educational attainment."

> For example, §116.1 (i), "Educationally deprived children" means those children who have need for special educational assistance in order that their level of educational attainment may be raised to that appropriate for children of their age."

There has been some confusion about this due to a regulation mentioning motivation, behavior or attitudes [§116.18 (e)]; but OE's interpretation has overwhelmingly been that educational attainment is the primary focus of a Title I project. This does not mean that other areas, such as motivation, behavior or attitudes cannot be considered, but only that they must be considered as they relate to educational attainment.

In this respect, if a needs assessment suggests that attainment is low because motivation is low or because behavior problems in school are obstructing a child's learning, then a project is fully justified in selecting what might be called sub-objectives in areas of motivation and behavior, the sub-objectives being seen as leading to primary objectives of educational attainment. Such a procedure is a crucial part of project design--developing, from a consideration of the needs assessment, sub-objectives which, when reached, facilitate the achievement of primary objectives in the area of educational attainments. These primary objectives, in turn, add up to the goal of attainment "appropriate for children of their age."

In considering tutoring projects, there is certainly sufficient indication in the literature, in reports from actual projects and in theoretical considerations (CSE Reports 5, 3 and 6 respectively) to suggest reasonable expectations of cognitive benefits deriving from the motivational, behavioral and attitudinal effects of tutoring on participating students, both tutors and tutees.

STEP THREE: SELECT A MODEL OR MODELS

Question 6: *What kind of tutoring model will best achieve the goals chosen for the target groups--Teacher Aide projects, Tutorial Service projects, or Learning-by-Tutoring projects?*

These kinds of projects were defined very briefly in Chapter I, and more details can be obtained from CSE Report on Tutoring #1.

For a Title I project, a Teacher Aide project would be difficult to justify since Title I funds must directly service the child, not the school or teachers (except insofar as training or support for teachers allows them better to serve the child). A Tutorial Service project could be run with Title I funds, but only tutees could be counted as receiving services. This would mean tutees might be target children, and tutors could be pupils who could be trained to effectively tutor the tutees. Learning-by-Tutoring projects, because specifically designed to benefit tutors as well as tutees can count both tutors and tutees as receiving services as long as both tutors and tutees are targetted pupils. As described in Chapter I, a specific kind of learning-by-Tutoring project is developed in this report: the Learning-Tutoring Cycle.

STEP FOUR: SELECT VARIOUS PROJECT CHARACTERISTICS

Question 7: *At what time of the day will tutors and tutees be brought together?*

A consideration of scheduled academic class times may affect your choice of target groups. Tutors and tutees must obviously be available simultaneously on days when tutoring is to occur. Their availability may be constrained by

various schedules which could be difficult to change. Report #1 illustrates how to examine two bell schedules.

Question 8. *For tutors, is tutoring to be conducted as a regular academic class carrying academic credit, as an elective carrying credit, or in "spare" time for no credit?*

Title I legal requirements permit any of these options although SEA's have not always interpreted the regulations as permitting such flexibility.

If the tutors participate in a Learning-Tutoring Cycle in place of a regular academic class, then this represents a Distinct (Type #2) project and only the excess costs of such a class can be paid for out of Title I funds. The school district must contribute the level of services that would be provided the participating students were they in a regular academic class instead of in the LTC Title I project. The same need to contribute state and local funds would apply if the LTC project replaced an elective class, i.e., if target students were assigned to the project at a time when they would otherwise be taking an elective class.

As regard subject areas covered, these are determined on the basis of judgment and/or the needs assessment. Students could participate in Title I projects in reading, math and language arts or just in one basic subject. The question of academic credit is a matter for the school district's own decision.

If the time provided was additional to the normal school day, or in the summer (if the district did not normally provide summer instruction), then the entire cost could be seen as excess cost, but possibly severe problems with scheduling a project outside of normal school hours might arise. There would be the possibility of stigmatization of participants and possible refusals to participate. Title I requires targetting of children on the basis of greatest need, and volunteering to receive services has not been seen as an acceptable targetting procedure. An out-of-school hours project might have to be voluntary and therefore unacceptable.

Question 9: *Will tutors be paid?*

If it could be argued from the needs assessment, and from examinations of research and of project evaluations, that paying tutors was desirable as a means of improving their educational attainment, then such payments would probably be allowable. A problem could arise, however, if students were so keen to tutor for pay that they were willing to feign low achievement on tests in order to be targetted. The requirement to target those children most in need must be borne in mind when deciding whether or not to start paying tutors.

Question 10: *For tutors, is tutoring to be voluntary, encouraged, or assigned?*

This question is readily answered by a consideration of the targetting requirements which require serving those with the greatest need for assistance. "Targetted" students would be assigned to tutor.

Question 11: *For tutees, will the tutoring be voluntary, encouraged, or assigned?*

Again, tutees must be eligible under Title I regulations in the target group and targetted as most in need. They will be assigned to receive tutoring.

Question 12: *Intact-class or pull-out projects?*

A general discussion of the advantages of using entire classes ("intact" classes) rather than pulling some pupils out of class is provided in Report #1. In the case of a Title I tutoring project we noted above (p. 15) the greater feasibility of a Coordinated project for tutees. A project can be a Coordinated type of project while providing services either to an intact class (IF the entire class consists of target pupils) or to a selection of target pupils pulled out of class. If the entire class consists of Title I target pupils

and if an acceptable matching of tutor-tutee needs can be accomplished with tutees drawn from one entire class, then an intact class project for tutees is recommended. If only some pupils are target pupils or only some can be appropriately taught the content tutors have to offer, then only these pupils should be pulled out to receive tutoring.

Turning to the tutors, again an intact class project is recommended (as per the discussion in Report #1 and on p. 16 in this report), but this cannot be implemented unless a class can be constituted entirely of Title I target pupils. If an entire class of Title I target pupils <u>can</u> be constituted, then an <u>intact class</u>, Distinct (Type #2) project is recommended.

If target pupils are scattered among several classes, a Coordinated project in which pupils are pulled-out to participate in tutoring will be necessary. This kind of project is described as a Resource Teacher program in Report #4, p. 21. A special Title I resource teacher or "coordinator" pulls out students to train them to tutor and to supervise the tutoring. Either the Title I teacher or the classroom teacher could provide tutors with initial instruction, but whatever arrangements are made, there must be explicit provisions for coordination between the Title I teacher and the regular teachers.

Before continuing to the next question, a possible confusion must be noted here. Some Title I documents discuss "in class" projects. These are not to be confused with the term intact class used above to refer to an entire class. "In class" refers to the <u>location</u> in which services are provided. Thus if a tutor or a remedial reading teacher works with a target child in the child's classroom, this is an "in class" service. A paragraph from the regulations is relevant here [§116a.22 (b) (8)]. An LEA shall not approve a project unless it determines that

> If services are provided in the regular classroom or in other settings in which children other than those properly selected to participate in the project will be present, these services will be directed to the selected children and the <u>effectiveness of the project will not be impaired by the presence of children other than those selected to participate</u>.
>
> (Emphasis added)

Project planners must decide in the light of their own experience, or that of others, whether or not tutoring should be conducted "in class." The probability of distraction seems high, however, and it is therefore desirable that a specially prepared room be provided for tutoring in pull-out projects. Tutoring should not be relegated to a corner of a busy classroom.

STEP FIVE: DEFINE THE TUTORING TASK

Question 13: *Are "programmed" materials to be used?*

The ways in which Title I constraints apply to this question are

a. Do the programmed materials meet the established needs of tutors and tutees? The extent to which a tutor learns when simply presenting a pre-structured, pre-determined program must be considered and could best be assessed in each unique situation by careful formative evaluation on a small scale.

b. Are the materials made available on a regular basis only to target pupils? (Materials cannot be purchased from Title I funds and then go into the general resources of a school as this violates the general aide prohibition. However, incidental use by non-Title I students is not cause for concern. The law does not require any absurd hiding of materials from some children, but rather, good faith expenditure of Title I funds on Title I target pupils.)

If programmed materials met needs of both tutors and tutees and were used only for target pupils, they could be part of a Title I LTC project.

Question 14: *If programmed materials are not used, how much structure should be imposed on the tutoring session?*

Again, the relevance of Title I to this question rests on the requirement for systematic procedures to plan for an effective project. A question such as this may be tentatively answered by project staff before a project starts; but on-going evaluation, including assessment of both objectives and methods, is necessary to the gradual development of a way to "best meet" the needs of educationally deprived children.

Question 15: *Full-sequence instruction or remedial instruction?*

For reasons presented in Report #1, full-sequence instruction is recommended. This decision could fit in well with a Title I needs assessment which identifies weaknesses in specific areas among potential tutors and tutees. Objectives are developed in the areas of the identified weaknesses, and tutors are taught the objectives and trained to teach the objectives. Tutees are selected who have the greatest need for instruction in the selected objectives.

Question 16: *How long should tutoring sessions be and how frequent?*

In Distinct (Type 2) projects, this question must be answered purely in terms of what is desirable in order to produce a pedagogically effective project. (See discussion in Report #1. Less than 2 hours a week has several times been found ineffective.)

In a Coordinated (Type 1) project, another issue arises. We have seen that a coordinated project may involve students' tutoring for a certain percentage of the time that they would otherwise spend in a regular class. This does not constitute a supplanting violation if the class teacher retains responsibility for the pupil's progress, and provision for coordination between Title I teacher and classroom teacher can be demonstrated. It has sometimes been judged impossible for the classroom teacher to retain control and responsibility

if the pupil is removed from class more than 50 percent of the time. When a pupil spends so much time in a Title I project that adequate coordination becomes impossible, then the pupil is missing the normal contribution of the regular teacher's services. The state and local funds needed for such services must then be used in the Title I project if supplanting is to be avoided. A project in which adequate coordination is not possible will have to be run as a Distinct (Type 2) project on an excess cost basis.

Question 17: *How will tutors be selected?*

As the reader must by now be well aware, Title I target pupils are those "most in need of assistance." This "need" could be established by norm-referenced or criterion-referenced tests, given once a year or given several times during the year. Pupils "furthest behind" must be targetted. Since the use of a Distinct (Type 2) project is recommended, involving an intact class of tutors, assessment of need once a year for targetting purposes is recommended. Once targetted, tutors remain in the LTC project for a year. However, formative evaluation might suggest more frequent assessment and assignment.

Question 18: *What will tutors be called?*

A small point, but possibly important in relationship to widespread concern that participation in Title I projects should not lead to isolation or stigmatization. Possibilities are "tutors," "olders," "student teachers," "junior teachers," "student aides," etc.

Question 19: *On what basis will tutees be selected?*

A target group of tutees is selected on a judgmental basis. The judgment is made regarding the possibility of substantially improving the educational attainment of a particular group of eligible children (e.g., 4th graders deficient in mathematics).

From the target group, tutees must then be selected on the basis of greatest need. A test at the beginning of the year can establish target pupils--those with the lowest scores--for the entire year. This targetting would not mean that all these pupils had to receive tutoring each time tutoring was offered. Title I regulations urge that, where possible, individual written plans be developed for each child. Each time a tutoring part of the Learning-Tutoring Cycle came around, it would be tied to a specific objective or set of objectives. That is, tutors would have learned, and would be prepared to teach, certain objectives. Tutees could be selected from the targetted pupils because they most needed instruction in the particular objective being offered that cycle. Tutees could then be consistently assigned to the same tutor with changes only being made in cases of incompatibility or a lack of match in learning needs.

Question 20: *How should tutors and tutees be paired?*

Tutors and tutees should be involved in a particular tutoring cycle because they need to learn a particular objective. Beyond this constraint, pairing can be left to the discretion of the personnel running the project who may consider the discussion of the topic in CSE Report on Tutoring #1.

STEP SIX: ASSIGN RESPONSIBILITIES

The various tasks associated with a tutoring project are listed in Figure 4, pp. 30-31 in CSE Report on Tutoring #1. In addition to completing something like this sheet, particular attention should be paid to explicit arrangements for coordination if either tutors or tutees are involved in a Coordinated (Type 1) project. Tutees are almost certain to be in such a project so that

careful arrangements for meetings between those who train and supervise tutors ("sending" teachers) and the teachers of the tutees ("receiving" teachers) must be made. Note the chart on p. 74 in Report #1. Title I funds could possibly pay for regular after-school planning sessions to accomplish this coordination or could provide release time during the school day.

STEP SEVEN: PLAN FOR EVALUATION

In Chapter VI of CSE Report on Tutoring #1, the evaluation process is broken down into eight steps. It is strongly recommended that attention be paid to those steps as early as possible, preferably when a tutoring project is initially being planned.

Evaluation is not an easy task, nor do people usually have the time to conduct thorough evaluations. Fortunately, the Title I legal framework clearly requires evaluation and allows significant funds to be spent on evaluation. (This is seen as fortunate because good evaluation can lead to project improvements and can locate effective projects, and effective components of projects. Furthermore, evaluation reports should provide a valuable means of disseminating information of effective practices.)

Consequently, a Title I project can expect to have the benefit of an evaluator. In a sample budget for a Learning-Tutoring Cycle project, we envisage a one-third time evaluator for each pair of secondary teachers involved in running an LTC project. The evaluator should provide the project with locally useful, meaningful information as the project first develops, information to improve the project. This stage is called formative evaluation. If the evaluator's activities do not provide useful information, the need for a change of evaluator is indicated. Once project personnel feel that the project is reasonably well

developed, plans should be laid to judge its overall effectiveness. Evaluation designed to demonstrate the effectiveness and value of a project is called summative evaluation.

The Title I statute requires that an SEA must determine, before allowing an LEA to receive a grant, that

> effective procedures, including provisions for appropriate objective measurements of educational achievement, will be adopted for evaluating at least annually the effectiveness of the programs in meeting the special educational needs of educationally deprived children. §141 (a) (6)

Notice that simply collecting objective measurements is not sufficient; a determination of "effectiveness" must be made. That is, the effects of a project must be examined. Objectively measured outcomes must be linked to the project procedures causing those outcomes.

As urged in CSE Report on Tutoring #1, attention should be paid to establishing the effectiveness of LTC projects in comparison with other projects that are feasible alternatives to the LTC. Thus the evaluator might wish to arrange that some target students participate in LTC projects while an equivalent group of target students receives some other Title I project, such as help from a specialist. After two or three years of running parallel projects and considering their costs and effectiveness, the one found to be the most valuable can be adopted.

CHAPTER IV
AUDITABLE CHARACTERISTICS OF THE LEARNING-TUTORING CYCLE

Title I projects are locally planned by teachers, parents, and administrators. It could hardly be otherwise; almost no school project can be simply imported and installed. As a RAND Corporation study of innovation emphasized, even when there is a model for a project from outside the school system, installation of the project at any site is a process of mutual adaptation (Berman and McLaughlin, 1974).

Authors of the same study recommended that rather than complete curriculum packages, researchers and developers should provide schools with "skeletal frameworks that call for and indeed assume development by local staff." This is the strategy adopted in the CSE Reports on Tutoring. Questions are posed for local planners rather than a blueprint being provided.

In this chapter a skeletal framework or a set of "defining characteristics" is provided that can then be fleshed out by local planning. These defining characteristics, as a group, constitute what we perceive to be the minimal auditable characteristics needed for success of a Learning-Tutoring Cycle project.

The qualification "auditable" is important. It might be suspected that a "good" teacher is essential to the success of any innovative project, but we do not count that as an auditable characteristic; important, maybe even crucial, but not readily auditable and therefore not listed below. Similarly, organizational climate in a school and in the district may be important to the acceptance and consequently to the success of innovative practices. Nevertheless, this contextual variable is not considered an auditable or defining characteristic.

The defining characteristics of a Learning-Tutoring Cycle are:

1. Older students receive a regular cycle in which instruction in a particular unit of the curriculum is followed by a tutoring assignment in that unit.

2. The curriculum units represent work the tutors need to learn.

3. The younger students who receive one-to-one tutoring from the older students need to learn the curriculum unit and initially know it less well than the tutors.

4. Curriculum units are composed of a limited number of clear objectives known to all tutors.

5. Tutoring is supervised by an adult who can help the tutor.

6. Regular assessment and feedback is provided by teachers to tutors and tutees.

The first two characteristics ensure a focus of the project on the tutors. Many tutoring projects have employed low achieving students as tutors and noted that they frequently make rapid gains, but selection of the content to be taught has almost invariably rested on a diagnosis of the needs of the tutees.

This has two major implications. First, if the diagnosis is to be accomplished by the tutors, we are expecting from them skills for which remedial teachers are highly trained: skills of pinpointing misunderstandings and knowing how to correct them. This is perhaps too much to expect from students. In the Learning-Tutoring Cycle, tutors prepare to present a complete unit from start to finish, a less demanding assignment. (See discussion of remedial versus full-sequence instruction in Report #1.)

Second, to select content on the basis of tutees' needs means that any match with the needs of tutors is entirely fortuitous rather than planned for. For maximum cognitive gains for tutors, the work they teach must be work which they themselves need to learn. Only given this relevance of the tutoring content to the needs of tutors can maximum gains for tutors be achieved.

The third characteristic listed above ensures that tutees also receive instruction in an area of need. When tutors have been trained to teach specific objectives, tutees are located who need to learn those objectives. The pool from which tutees are drawn should be larger than the number of tutors so that tutor and tutee needs can be readily matched. (This procedure does not mean that there will be gaps in tutees' learning since for tutees, the project is in addition to their regular instruction. Their regular teacher retains control and coordinates the children's total program with the tutoring. For the teacher of the tutees, the trained tutors represent a supplementary resource made available by the LTC project.) The last two characteristics represent minimal components of a monitoring and feedback system without which it is likely that tutor enthusiasm will flag.

The point was made earlier that these characteristics are auditable. In Figure 2, ways in which these characteristics can be measured are suggested. Such measurements are not only useful for audits to establish project implementation, but perhaps more importantly are designed to assist evaluators in project definition and monitoring. For example, the proportion of time spent on the tutoring part of the Learning-Tutoring Cycle is an important characteristic of a project, a characteristic which an evaluator should measure and report. What proportion of instructional time should be allocated to the tutoring part of the cycle? Formative evaluation could well involve the trying out of different proportions of learning and tutoring to see which were most effective. It might even be necessary to establish cut-off criteria to keep a project up to some minimal standards. For example, a project that involved nine weeks of tutoring and only one week of learning might not be considered a learning-tutoring cycle. Some possible cut-off criteria are suggested in the third column of Figure 2, but it must be emphasized that they are only rough indications. Projects should develop their own criteria and program definitions during formative evaluation.

Defining characteristics	Measurements of the defining characteristics	Possible cut-off criterion that implies non-implementation*
1. Older students receive regular cycle in which instruction in a particular unit of the curriculum is followed by a tutoring assignment in that unit.	Percent of allocated project time spent by older students in tutoring. Duration of each cycle.	Not less than 50% of time tutoring and not more than 80%. Cycles not of larger duration than a month.
2. The curriculum units represent work the tutors need to learn.	Pretest of tutors--prior to their instruction on curriculum units.	Mean score for tutors not over 60% on pretest.
3. The younger students who receive one-to-one tutoring from the older students need to learn the curriculum unit and initially know it less well than the tutors.	Pretest of tutees.	Mean score for tutees not over 20% on pretest.
4. Curriculum units are composed of a limited number of clear objectives that tutors are cognizant of.	Examination of curriculum. →	Not more than 10 objectives per unit (i.e., per LT cycle).
	or	
	Measurement of the number of the objectives of a unit that randomly sampled tutors can accurately describe at the time when they are tutoring in that unit. →	No more objectives per unit than the average tutor can accurately describe on request.
5. Tutoring is supervised by an adult who can help the tutor.	Examination of staff schedules. Site visits.	If a tutor cannot receive help within 2 minutes of signaling need for help, supervision is inadequate.
6. Regular assessment and feedback is provided by teachers to tutors and tutees.	Existence of teacher-graded posttests for each curriculum module (each LT cycle) plus tests that assist tutors in assessing tutee progress. Evidence of feedback to tutors and tutees, written and verbal. Evidence that the supervising teacher and the tutors know which objectives tutees have mastered. Evidence that tutees know which objectives they have mastered.	If records do not show at least pre and posttest scores for each child for each module, assessment is inadequate. If the supervising teacher(s) cannot predict a rank ordering of tutees on a unit test that correlates .50 or better with an obtained rank ordering, then assessment is inadequate. If tutors cannot predict with an accuracy of 80% which objectives in a unit their tutee has mastered, then assessment is inadequate.

*These cut-off criteria are IN NO WAY intended to be adopted. They are illustrative only. Projects should develop their own criteria during formative evaluation. Such criteria if developed would reflect local project concerns, conditions and feasibility needs. Criteria for each characteristic could be developed and worked towards one at a time over many cycles of the project.

Figure 2. Defining Characteristics of LTC Projects

To summarize, in a Learning-Tutoring Cycle, older students (the tutors) are taught limited sets of objectives ("curriculum units") which they need to learn or practice. Supervised by their teachers, they then tutor younger students who have been selected as tutees because they need to learn the curriculum units. Following tutoring, the cycle resumes with the tutors learning and preparing to teach another set of objectives while the tutees stay in their regular classes. A set of defining characteristics was presented, these being seen as auditable and as necessary for the success of a Learning-Tutoring Cycle. Major efforts of project personnel must be directed towards providing tutors with the support they need in order to be effective, i.e., towards providing a Tutor Support System, the elements of which are listed in Figure 3 and discussed in Report #1.

The next chapter in this report (Chapter V) discusses the kind of support, opportunities, and resources that teachers should receive to enable them to create an effective project.

(1) INSTRUCTION IN WHAT TO TEACH	• samples of the kinds of tests that will be used to assess tutee progress • help from the teacher or other tutors in any areas of instruction in which tutor is weak
(2) INSTRUCTION IN HOW TO TEACH	• demonstrations of effective tutoring procedures • opportunities to practice tutoring before meeting the tutee (e.g., by role playing among tutors) • demonstration of use of resources and materials
(3) RESOURCES AND MATERIALS	• for instruction (e.g., manipulative materials, books) • for management (e.g., attendance charts, assessment records)
(4) TIME AND SPACE TO TUTOR	• time in the regular school day • space that is free of distraction such as that provided by a special room with carrells
(5) SUPPORT DURING TUTORING	• a supervisor who can assist in managing the tutees • a supervisor who can help tutors with the content to be taught
(6) REGULAR FEEDBACK	• regarding tutee progress as assessed by teachers • regarding tutors' effectiveness in discharging their responsibilities
(7) REINFORCEMENT	• recognition, praise, privileges may be extended to tutors

Figure 3. Components of a TUTOR SUPPORT SYSTEM

CHAPTER V
RECOMMENDED IMPLEMENTATION STRATEGIES AT THE SITE LEVEL

In this chapter we are concerned with project implementation at the site level. In Chapter VI we discuss actions that should be taken at the federal level to ensure an adequate trial of the proposed project. At the site level the concerns are that teachers should receive adequate incentives, reasonable preparation, and the necessary resources for implementing this novel instructional procedure--the Learning-Tutoring Cycle. Another concern is the need for evaluation which is meaningful and useful at the site level. Since implementation strategy is so closely linked with--if not synonymous with--the question of how available funds are to be spent, this chapter concludes with a budget showing how funds can be used to obtain the recommended implementation strategy.

The LTC is an innovation: it is essentially a new method of teaching the students who act as tutors. Adoption of an innovation is not a matter of demonstrating that the innovation works or is desirable but, rather, it is a process of adjusting the costs and benefits for all those groups and individuals whose support is needed to implement the innovation.

> It is commonplace in education to assume that the school is a coordinated, integrated, problem-solving mechanism that, confronted with an innovation, assesses its merits and, if it proves worthwhile, incorporates it. Such is not the case. (House, 1974, p. 40)

Adoption of an innovation is a complex political process rather than a simple rational process. In this political process, teachers have power. Even though teachers frequently have little to say in the initiation and development of innovation, the teacher is the ultimate consumer of innovations and, as such, has veto power:

> The teacher does not usually initiate an innovation, but he almost always decides whether he will implement it or, more precisely, the degree to which he will use it. The teacher's power in educational innovation is that he can veto for himself. He is the ultimate consumer. (House, 1974, p. 67)

It was concern with the vital role of the teacher that led to a testing of the ideas of the Learning-Tutoring Cycle among large groups of teachers in the kinds of schools that might be involved in Title I projects. We attempted to find out how the ideas were received, if secondary teachers felt they could implement such projects unaided, what incentives would be effective, whether elementary teachers balked at the idea of having low-achieving secondary students tutoring their pupils, and so on. This field work (which is described in Report #4) along with the literature on innovations (especially House, 1974; Berman and McLaughlin, 1974) led to the development of the proposals for implementation strategies that are described below.

In essence, we see it as essential that time and resources are provided to enable teachers to learn tutoring, and the management of tutors, before they are submerged in the demands of regular school. In line with teachers' expressed preferences (Report #4), this learning should be a learning by direct experience as in workshops or pilot projects. It is recommended that in summer school or in release time provided at the beginning of the school year, teachers be given the opportunity to prepare for tutoring by undertaking one-to-one tutoring themselves and running a Learning-Tutoring Cycle on a small scale. In this way they begin to develop the project in the ways they find most effective.

Unless the project is run by a coordinator, teachers must have release time each day in order to have time to deal with problems and to adequately monitor progress of tutors and tutees. Hence, for each class that a secondary teacher runs by the Learning-Tutoring Cycle method, it is recommended that a pupil-free preparation period be provided.

In elementary schools, Title I funds have for several years paid for community aides, and aides will be of assistance in bringing elementary pupils each day for tutoring as well as in their normal classroom support activities. Consistent

with the intention of these proposals to serve both secondary and elementary pupils, not simply shift Title I funds to the secondary level, the budget that will shortly be described includes the usual elementary school aide for the Title I classroom in the elementary school.

A vital role is envisaged for the evaluator, primarily as a formative evaluator in the first few years of LTC projects. Evaluators assist in the development and clarification of objectives, in developing monitoring systems that the teachers and tutors find usable, in communicating the project to parents and federal and state audiences, and in locating ideas and opportunities that could be of interest to the teachers. Evaluators also assist teachers in conducting studies of various components of the projects. By regular interviews with students, evaluators can facilitate the input of student ideas into the project's design and development.

The teachers of the tutors are sometimes called the "sending" teachers in the tutoring literature because in most projects they simply send tutors out of class to work under someone elses supervision. The term is less appropriate here since it is recommended that the teacher of the tutors train tutors and supervise the tutoring sessions. However, with this reservation in mind, the term "sending teacher" can continue in use.

In the Learning-Tutoring Cycle, it is essential that the sending teachers have regular time to confer with the teachers of the tutees ("receiving teachers"). Sending and receiving teachers not only share in monitoring the progress of the tutees, but must also coordinate their methods of teaching so that neither set of students is confused. In addition to time for regular joint planning by sending and receiving teachers, LTC teachers should have opportunities to be in contact with other teachers involved in this innovative kind of project. It is therefore recommended that provisions be made for regular release time and professional opportunities for LTC teachers.

Sample budget for the Learning-Tutoring Cycle. By presenting something as concrete and detailed as a budget, one inevitably opens up the possibility of all kinds of detailed objections. Vague generalities are readily agreed to when

any operationalization of the same generalities causes an immediate conflagration in a group. Nevertheless, a budget will be presented, simply to show that the various recommendations that have been made fall within the bounds of possibility in Title I projects. We do not recommend, obviously, that anyone adopts this particular budget. It is here as a rough check of the costs of implementing the project in a way which holds promise of success.

To simplify matters, the budget is developed for a project involving two schools in each of which two teachers participate in the project -- two secondary "sending" teachers and two elementary "receiving" teachers. We are assuming that each teacher has classes composed of Title I target pupils. The budget shows the excess cost per pupil, that is, the Title I dollars needed to support the innovation. The excess cost adds up to $300 per child served during the initial start-up year, dropping to $130 per child per year after start up and evaluation costs have been dropped. All costs have been estimated high rather than low as can be seen from the table notes to the table. However the budget does not include district Title I administrative costs.

TABLE 1
Sample LTC Budget for the First Two Years and the Continuation Cost for a Stable Program (Year X): High Estimate

Item	Year 1 serving 100 ① students	Year 2 serving 200 ② students	Year X (stable program sans evaluation) serving 200 students
One preparation period above normal for sending teachers, assuming 6 periods per day-- (15,000 x $\frac{1}{6}$ x 2 = 5,000) ③	5,000	10,000	10,000
Planning time/inservice for sending & receiving teachers $50 per teacher per month x 4 teachers x 9 months = 1,800 ④	1,800	1,800	1,800
Transportation for tutors--$35 per class per week for 30 weeks ⑤	2,100	4,200	4,200
Tutoring room at elementary school ⑥	500	500	500
Elementary school aides 2 1/2-time aids or paraprofessionals ⑦	8,000	8,000	8,000
Evaluator 1/3 FTE @ 18,000 pa ⑧	6,000	6,000	
Conference costs for teachers and evaluator (# of teachers + 1/3 evaluator) x $200 expenses ⑨	866	1,666	1,600
Start-up costs ⑩	6,600	1,000	
TOTAL	$30,866	$33,166	$26,100
Approximate excess cost per target pupils	300	165	130

NOTES:

① Both tutors and tutees count as children served by the LTC project. This assumption is reasonable because the project is designed for the benefit of both. There are 2 classes of tutors and two of tutees. Assuming class size of 25, this yields 100 students served the first year. When 4 classes from the secondary school tutor, the total number of children served will be 200. This estimate of costs is high. In other words, if classes contained 28 students rather than 25, then implementation supplementary costs would be 12% less.

② After the first year--in which each sending teacher uses the LTC method in only one of his or her classes--either more sending teachers are recruited or original sending teachers start running a second class by the LTC method. Whatever combination of these means of expansion is adopted by decisions of the school staff and parents, *a preparation period for the teacher is provided with each class that uses the LTC method.* (See ③ below) The expansion to more classes serves more students at a lower cost per student.

③ Teacher salaries of $15,000 p.a. are assumed and a 6-period day. Sending teachers will coordinate the project and to do so, they need an extra preparation period. In addition to coordination responsibilities, they are, in a sense, adding the class of tutees to their pupil-load. They must monitor tutee progress, communicate regularly with the receiving teacher and with the evaluator. In addition, they must take charge if schedule changes, bus schedules, etc. Dropping one of their other classes is, therefore, highly justifiable.

④ A substitute teacher costs $50 per day. The substitute teachers are hired to release sending and receiving teachers for joint planning and professional development one full day per month. An alternative would be to pay the sending and receiving teachers overtime for planning meetings outside normal school hours. Local decisions are called for in such choices. Overtime pay is generally more economical. When substitutes are used each month, every effort should be made to make this a regular assignment for reliable substitutes so they become familiar with the students and the program.

⑤ Transportation provided by a school district bus is assumed to cost a school approximately $6 per hour plus 50¢ per mile. It is also assumed that secondary schools are about a mile from elementary schools (rural areas would need to make adjustments here but in urban centers less than a mile will be typical). Thus for a week's transportation assuming an hour a day, the cost would be approximately 5 x (6+1) = $35.00. For two LTC classes the weekly cost would therefore be $70.00--unless they were transported together in which case the cost would only be $35.00. The $70.00 figure has been used. Busing costs allow for a schedule in which each class of 25 students is transported alone. Scheduling classes to share a bus would usually be possible and reduce the costs.

⑥ It is assumed here that a tutoring room can be established and maintained at the elementary school for $500. Decreasing enrollments in elementary schools leave many empty classrooms that would be expensive to move. Any room can be prepared as a tutoring room. Providing partitions to make tutoring booths is not expensive, and many schools already have such equipment either for language labs, work carrells or testing procedures.

⑦ Paraprofessional salaries are assumed to be $8,000 p.a. Title I has provided elementary school teachers with aides and thus has provided the community with more jobs. It may well be that this use of funds for elementary school Title I children is too important and too well-established to be discontinued. Consequently, *the sample budget reflects a continuance of aides in elementary classrooms.* They assist in running LTC projects but otherwise continue to aid the elementary teachers.

⑧ The role of the formative evaluator includes a role of district coordinator/project director. One evaluator can be responsible for 3 sites. With four classes involved per site, there are 100 students per site the first year. This is not a heavy load, and districts might wish to split this one role into two distinct persons--a coordinator and an evaluator, each responsible for 6 sites. A discussion of the role of formative evaluator is provided in the section on evaluation. During summative evaluation, which might occur in Year 3 or later, this figure pays for the summative evaluator.

⑨ Allowance is made for $200 per year to be spent on "conferences" by each teacher involved in an LTC. The conferences may be regional meetings, workshops, special courses, etc., all aimed at the professional development of the teacher as an LTC teacher.

⑩ These start-up costs cover a district coordinator 0.2 FTE for 6 months ($2,000), summer school pay for teachers ($4,000), training and transportation ($600).

The budget presented in Table 1 depicts a program that rests heavily on the involvement of the secondary teachers. It is designed to provide them with the training and incentives to make the role change a regular, integral part of schooling, not an add-on program. They run the program and receive pupil-free periods to devote to the role of program coordinator. For each tutoring class, sending teachers receive a pupil-free period. Consequently, if they have two or three classes tutoring, they will be able to devote half their time to the preparation of materials, monitoring of tutor and tutee progress, communication with the receiving teacher, etc.

An important feature that should be noted is that aides are provided for elementary teachers. An important aspect of our proposals is that although we see attention to secondary school students as an urgent need, we do not wish to serve them at the expense of elementary school children, but rather to serve both together by means of tutoring.

Obviously districts will make their own detailed decisions about how to initiate and fund a project. The trend towards site management, the need to involve personnel in program decisions, and the varying levels of eagerness and experience to be expected at various sites all contribute to the necessity of local decision-making, hopefully at each school site.

Summary. The Learning-Tutoring Cycle involves a new form of classroom organization and is therefore, inevitably, a strain on teachers. The allocation of resources that has been recommended here is directed towards enabling teachers to increase their effectiveness and professionalism: release time for planning and coordination, conferences with other teachers involved with LTC projects, professional assistance as chosen by teachers, and the services of an evaluator.

Tutoring programs are too often initially fueled with the enthusiasm of some inventive faculty volunteer for a short while only to fade in competition with regular duties and in the absence of any lasting incentives to continue the new procedures. If implemented as described here, LTC projects are unlikely to fade and very likely to be successful.

CHAPTER VI
RECOMMENDED FEDERAL ACTIONS

Since the intended audience for this report consists primarily of persons concerned with the local school site planning of Title I projects, this chapter on recommended federal strategies may not be of immediate interest. It is included so that local Title I personnel may be aware of recommendations that have been made.

Past Federal Actions Regarding Tutoring

Federal agencies have already played a significant role in promoting peer tutoring. The widely implemented Youth Tutoring Youth projects, which employed low achieving inner city youths as tutors during the summer months or in after-school programs, were run with federal support. Under National Science Foundation grants, researchers at the University of Indiana developed programmed tutoring materials for beginning reading and mathematics, usually administered by paid trained adults [e.g., Ellson, Harris, & Barber, 1968, Ronshausen, 1974].

At one of the federally funded research and development laboratories (Southwest Regional Lab), tutoring materials for parents have been developed as supplementary material in several curriculum packages. At another federal R&D establishment (Wisconsin Center for Cognitive Learning), a manual for tutors has been developed and some research conducted into tutoring (See Devin-Sheehan, Feldman and Allen, 1976). ESEA Title III funds supported the development and dissemination of cross-age teaching methods by the Ontario-Montclair School District in California, a project that won a "pacesetter" award. The Office of Education (USOE) also publishes booklets to assist tutors.

A number of important papers and surveys have been commissioned by NIE on the subject of tutoring. D. J. Klaus' "Patterns of Peer Tutoring" provides an excellent overview of a wide variety of tutoring projects and presents sensible suggestions for teachers embarking on such projects. S. Bloom's book, "Peer and Cross-Age Tutoring in the Schools," which is written on the basis of extensive use of student tutors in reading instruction, provides practitioners with a conceptual approach and a source of practical ideas for classroom procedures. Deterline (1970) reviewed four major tutoring projects under a USOE grant and prepared a report entitled "Training and Management of Student Tutors."

Although all these documents recognized the possibility of substantial benefits to tutors--particularly non-cognitive benefits such as motivation and self-esteem--none focussed on the use of tutoring as a method of instruction for the tutor. Almost always the choice of the content to be tutored is seen as being determined by the needs of tutees. Selection of tutees because they can appropriately be taught the content which tutors are prepared to teach is not discussed.

The attention to tutoring at the federal level reflects a responsiveness of various federal offices, notably USOE and NIE, to school concerns. As Klaus noted, "Schools and teachers all over the country are enormously interested in peer tutoring...." (Klaus, 1975:1). This commendable interest should now be brought to fruition with provisions for research into tutoring in general, along with some deliberate and relevant empirical policy studies. One empirical policy study will be proposed here. As was clearly established in a paper commissioned by NIE to a Stanford University researcher (Calfee, 1974), despite widespread interest, there has as yet been very little solid research into actual school tutoring projects. (This situation is also illustrated in Report #5 and by a review, Devin-Sheehan, et al., 1976.)

Future Federal Strategies

One possible federal strategy would be simply to make the CSE Reports on Tutoring widely available to Title I planners leaving the implementation of various kinds

of tutoring projects entirely up to local initiative. However, there are two principal reasons why this approach appears inadequate.

One is that adoption might proceed slowly. The Learning-Tutoring Cycle represents an unfamiliar method of classroom organization. It is not a set of materials neatly packaged, needing only to be unwrapped and handed out. It is a project demanding high levels of initial effort and organizational change. Some stimulus to adoption is desirable.

(On the other hand, it should be emphasized that if teachers were directly given choices as to what kinds of Title I projects to implement and if the kind of budget recommended in this proposal were proposed to support LTC projects, then we would expect to see very rapid adoption of the projects. While the LTC makes great demands for reorganization on teachers, the recommended implementation strategy concentrates on providing the time and support that teachers at each site would need to have in order to meet the demands of the project. These incentives, coupled with the general acceptability to teachers of the project's ideas (see Report #4), would probably lead to widespread adoption if teachers were decision-makers regarding initial adoption of projects.)

A second argument against leaving the CSE Reports on Tutoring to carry the full burden for the dissemination of the Learning-by-Tutoring concept in general and the Learning-Tutoring Cycle in particular, is that even where tutoring projects are adopted, there will be no guarantee of meaningful evaluation at any one site, let alone across sites, and certainly not at the level of detail at which the method deserves investigation. Report #6, for example, dealing with theoretical conceptualizations of the effects of tutoring projects, and Report #5, dealing with the literature on tutoring, both instance many important investigations that have never been attempted in evaluations of tutoring projects. Calfee's paper, referred to earlier (Calfee, 1974), suggested yet other investigations that are urgently needed.

To avoid slow adoption and inconclusive evaluation, it is recommended that an empirical policy study be conducted by NIE, not only of LTC projects, but of LTC and many other kinds of tutoring and non-tutoring Title I projects.

Recommended empirical policy study. The question that needs to be answered, if Congress is to find a method of improving the education of disadvantaged students, is "if incentives are provided for defined strategies, can schools significantly improve the achievement of educationally deprived children?" Tying funds to defined strategies, rather than only "laying on money in the name of doing good,* is a federal level intervention that needs investigation.

In the case of the Learning-Tutoring Cycle, highly effective projects almost certainly can be designed and implemented and, even if adoption is left entirely up to local choice and initiative, we shall undoubtedly see some effective projects sooner or later. But even given naturally occurring successful projects, it would still not be known whether the method would be successful if implemented not by the few with high initiative, or those to whom the project immediately appeals, but on the much wider basis that will undoubtedly be required for substantial impact.

To obtain information relevant to policy, what needs to be known is whether tying the provision of funds to the implementation of a defined strategy, such as the LTC, leads to significant improvements in the education of disadvantaged pupils. Put in another way, the following research hypothesis needs testing:

> Given incentives to try out the Learning-Tutoring Cycle as a specified paradigm of instruction, teachers will obtain higher student achievement and satisfaction using this specified paradigm than the same teachers obtain either using other specified paradigms of similar costs or using normal schooling procedures.

It should be noted that a variation on this theme was attempted in the Follow Through projects. In those projects, rather than a parsimoniously specified paradigm, as contained in the defining characteristics for an LTC project, total systems were specified, taking control of many variables at once rather than just a few. The results of such total system interventions should have been dramatic if our current ability to design social systems to achieve goals had been adequate. However, the experience of the Follow Through projects suggest that our current knowledge of school learning and organization may still be inadequate to the task of designing highly effective total systems,

*A phrase coined by Worth Bateman and quoted by Timpane (1970).

and that there are also several critical drawbacks to the strategy of taking control of so many variables at once.

Implementation of a detailed total system or set of concepts is usually an uphill battle of communication and persuasion. Even when the system is successfully installed at one site, following enormous external efforts to reach this point, the transferability of the system to other sites is yet another uphill battle requiring again the imposition of required behaviors on previously autonomous teachers and others. This means that the dissemination of total systems is bound to be an incredibly slow, expensive and lumbering process, constantly running into the danger of being imposed from the top down and meeting intractable opposition.

Finally, the evaluation of a total system is problematic. What aspects of the system account for failures or successes? What, if anything, can be changed without endangering the success of the system? If there are poor results, where are changes to be made? And total systems can hardly be legislated so that their success is more of research interest than policy-relevant. In contrast, the tying of incentives to a specified paradigm with auditable characteristics is a quite feasible federal intervention. What is needed is a study of simulated incentives to see if the strategy works and should be implemented on a wide basis.

A major recommendation, then, is for the conduct of an <u>empirical policy study</u> which, while providing direct services, will constitute a policy-relevant experiment.

> Social action programs and programs of social experimentation probably must, in the political nature of things, proceed side by side if <u>either</u> is to succeed fully" (Timpane, 1970, p. 548, emphasis added).

The fact that the Title I program has been funded at a level that allows only a small proportion of eligible children to receive services, means that there are large numbers of school sites eligible for, but not receiving Title I funds. Many of these sites would undoubtedly welcome a chance to participate in well controlled studies to determine which promising Title I interventions are the more effective.

An outline of one way in which the proposed policy study might be conducted is presented in the Overview to the CSE Reports on Tutoring (Report A). Key features are:

1. The implementation of TWO Title I interventions at each site to enable the assignment of equivalent groups of eligible students to each intervention and the evaluation of their comparative effectiveness at each site.

2. The Contracting of the empirical policy study not only to the usual Research and Development (R&D) organizations, but also to school district R&D units. [Most Federal research grants go to federal labs and centers or to non-profit research organizations, but NIE has been urged to promote expertise at the LEA level (see Education Daily, Nov. 6, 1975). School districts are now beginning to have the trained personnel available to conduct high quality research. School research units should thus be given a chance to work on federal contracts. They may have greater influence in schools. Furthermore, in the present instance, having had the district involved in evaluating the Title I interventions, the district would have developed the expertise to continue and to disseminate the more successful projects.]

3. Provision of formative evaluation followed by proposals for summative evaluation that must be approved by NIE before being implemented (to avoid implementation of inconclusive evaluation designs).

4. Interventions to be designed to conform to simulated regulations so that findings have direct, immediate and clear implications for subsequent federal policy.

In conclusion, many federal actions have already stimulated the production of tutoring materials and the dissemination of some concepts in the area of tutoring. Research in tutoring is still quite inadequate, however, and policy relevant research in the area is urgently needed.

It is recommended that tutoring projects specifically designed to enhance the competence of the tutors in basic skills be widely adopted as an exceedingly promising practice for compensatory education. A series of Reports on Tutoring has been prepared which can be used by persons involved in the local planning of such projects. However, in order to obtain hard evidence and thorough evaluation, and to test regulations that might tie funds to specific kinds of projects, a major recommendation is that an empirical policy study should be conducted by the National Institute of Education through contracts with two kinds of organization: research and development organizations and school district research and development units. Such an empirical policy study would provide direct services while evaluating the effectiveness of simulated regulations in actual school settings.

> ...a major focus of R&D policy should be--through experimentation and through incentives that encourage new patterns of institutional behavior--to encourage a long-overdue diversity of approaches to schooling (John Pincus, Director of Education, RAND Corporation, 1974, p. 139).

"In greatest need of assistance"
--What does it mean?

It might not be expected that the kind of testing procedures employed in a program would have any profound effects on the program's impact or on its underlying rationale or procedures, but the arguments below suggest that such might be the case in the Title I program. It is argued here that current reliance on norm-referenced tests is hindering the achievement of demonstrable success in the Title I program. A shift from norm-referenced to criterion-referenced testing in Title I projects would:

- provide the Title I program with a defensible rationale
- permit the setting of realistic objectives
- provide clearly interpretable outcome measures thus making it possible to demonstrate success

The Difference Between Norm-Referenced Tests (NRTs) and Criterion-Referenced Tests (CRTs)

As the terms imply, it is primarily the way in which a score is "referenced" that distinguishes between the two kinds of tests. In norm-referenced testing, a pupil's score is referred to the distribution of scores in a "norm" group, a representative sample of students to whom the test publishers gave the test. The test result tells where the student placed in the norm group, that is, how well the student did with respect to the representative sample of students. For example, a pupil's score may be reported as 20th percentile meaning that he/she placed above about 20 percent of the norm group. (Since 20 percent represents one fifth, the pupil scored at the top of the lowest fifth.) Notice that a percentile score only tells where the student placed with respect to other students in that particular norm group on that particular test. It does not indicate specifically what the student showed he/she could or could not do on the test.

In criterion-referenced testing, a pupil's test performance is reported in terms of performance criteria, usually mastery or non-mastery of specific skills or instructional objectives. Thus criterion-referenced testing for a kindergarten child might report whether or not the child can name six colors correctly, write his/her own name, or tie a shoelace. At a higher level, a pupil's scores might report whether or not the pupil can add a column of six two-figure numbers, complete an application form without errors, or use a particular spelling rule.

Clearly if a group of students took both kinds of tests, the results would be correlated. For example, students who had a low percentile rank in reading would tend to be less likely to be able to complete an application form than students with a higher percentile rank in reading achievement. It is sometimes possible, indeed, to use the self-same test as either norm-referenced or criterion-referenced, by reporting results either in terms of a pupil's ranking or in terms of the skills which the student has or has not mastered, based on an analysis of the test items passed or failed by the student. However, the manner in which a test is to be used--as a NRT or as a CRT--strongly affects the methods used to construct it and consequently most NRTs are not suitable for use as CRTs. Hence the need for an early decision, in planning a program, as to which kind of test to employ.

How do the differences between NRTs and CRTs influence

(a) Title I's rationale or ethical basis?

(b) the setting of objectives?

(c) interpretation of outcomes?

(a) Rationale and ethical basis for Title I. Underlying any public policy are ethical or value related assumptions, and these frequently need examination in any consideration of that policy. In passing ESEA Title I, Congress was clearly concerned with the detrimental effects of poverty on school attainment. "Compensatory education" was to compensate for educational deprivation among children

in poverty area schools. But why are low achieving pupils in poverty area schools provided with special services--compensatory education--when average or high achieving pupils in those same poverty areas are not?

There is no evidence that the effects of living in a poverty area are more detrimental for low achieving students than for high achieving students. If the Title I program is meant to compensate for the effects of poverty on educational attainment, then it should serve equally children of all ability levels. Special funds should be available to help those students who need extra instruction in order to reach college as well as to help students who need extra instruction to graduate from high school.

Indeed, in the early years of the Title I program, some districts felt that those "in greatest need of assistance" were the pupils falling furthest below their potential, regardless of absolute level of current achievement, and they allocated Title I funds accordingly. OE interpretations, however, have consistently required that targetting of students be based on current achievement level--those most in need are defined simply as those furthest behind on norm-referenced tests. Given this concentration of resources on low achievers, if the Title I program were successful beyond belief, it would still alter only the distribution of achievement at the lower end of the scale. But pithily, and extrapolating to job categories, we'd have more Black clerks but not more Black managers.

What justification can there be for the devotion of greater resources to low achieving poor children than to high achieving poor children? Jencks et al. argue that if maximum total satisfaction were the criterion for justification, quite the opposite distribution of resources would be made:

> People who know a lot generally value additional knowledge and skills more than those who know very little. This means that insofar as knowledge or skill is valued for its own sake, an unequal distribution is likely to give more satisfaction to more people than an equal distribution (Jencks et al., 1973, p. 11).

However, the allocation of greater resources to low achievers can be justified if there are some minimal skills--Michael Scriven has called them survival skills--that an individual requires in order to function in a modern urban

society. If some minimal levels of competence are required for earning a living and coping with urban life, then it is justifiable to ensure that pupils leaving school have these competencies, even if this requires spending extra funds on those who take longer to achieve them. The justification lies in the problems arising for the individual and for society when persons do not have minimal competencies for self sufficiency, particularly in a society in which unskilled jobs are becoming scarcer.

This minimal basis competencies or survival skill position provides a defensible rationale for focussing compensatory education on the low achieving students. Its acceptance, it will be argued below, would make success of the program both more likely and more demonstrable. (It should be pointed out that its acceptance might have other consequences. The minimal competencies position does not need to be tied to the poverty criterion at all. Another possible consequence of the competencies approach is greater attention to secondary as opposed to elementary pupils, since in the secondary years it will be clearer which students are failing to demonstrate the basic competencies they should attain before leaving school.)

The decision will have to be made at a Congressional level: Is the Title I program designed to compensate for the effects of poverty (in which case it should serve the poorest children regardless of ability or achievement level), or is the Title I program designed to provide supplementary educational services to children falling below acceptable levels in basic skills? If the latter, then the tests used to target pupils and to measure project success should be criterion-referenced tests designed to measure acceptable levels in basic skills.

(b) The setting of objectives. Large numbers of Title I projects have taken as their goal the achievement of better than a month's gain on a norm-referenced test for a month's instruction. The gain is measured by changes in grade equivalent scores on norm-referenced tests. Such gain scores, however, are invalid indicators. As an Office of Education report pointed out (quoted in full on p. 59 in CSE Report on Tutoring #1):

- project students can show better than month for month gains yet never catch up with their more advantaged peers.
- project students are virtually precluded from showing month for month gains or better since the typical or average student (who is not disadvantaged) only gains two thirds of a month per month.
- a program that administers its pretest late in the Fall and then posttests early in the Spring will show more month per month growth than a program that tests early in the Fall and late in the Spring, even though the latter program might be considerably more effective than the former.

Such artifacts, consequent upon the use of grade-equivalent scores from norm-referenced tests, make the setting of goals and objectives a procedure of rough guesses in a situation which for everyone, but especially for parents and teachers, is obscure and unpredictable. To set goals based on norm-referenced tests--such as month for month gains--is to run the risk of obtaining only chance results influenced more by test artifact than be actual effectiveness of the project. Furthermore, it represents taking on faith the supposition that school resources can substantially affect scores on norm-referenced tests.

There are many researchers who doubt that norm-referenced, timed, standardized tests are sensitive to the effects of schooling. Quite certainly, the preponderant evidence suggests that, short of teaching to the tests (which would be a violation of professional ethics and would in any case invalidate any meaning the tests have) schools can rarely make any significant or sustained differences on norm-referenced achievement tests (Coleman, 1966; Jencks, 1972). To doubt that resources or, indeed, schools themselves, can influence norm-referenced test scores is not to take the position that schools are ineffective. Actual achievement could be affected by school procedures but yet not be detected by norm-referenced tests because of their method of construction.

By contrast, when specific objectives in minimal competencies guide daily instruction, students usually do attain such measurable, limited sets of objectives. Specific objectives in minimal competencies should be the objectives of Title I projects. If minimal competencies were identified, parents and teachers could rank order the competencies by importance, prepare individual plans for the achievement by each pupil of the competencies he/she lacked, and

thus obtain clear, well-defined, understood, feasible and measurable objectives both for individuals (as urged in Title I regulations §116.47) and for the projects as a whole.

(c) Demonstrable success. Present evidence suggests that schools can have little effect on standardized norm-referenced test results but can teach specific objectives (Coleman, 1966; Jencks, 1972; Walker and Schaffarzick, 1974). Consequently, to report Title I results in terms of the number of pupils mastering various basic competencies is to make success more demonstrable. Such a measure is more readily understood and more widely credible than any manipulation of norm-referenced statistics.

There are, of course, problems associated with criterion-referenced testing. For example, any attempt to designate what constitutes "mastery" and what competencies represent essential survival skills will usually encounter lengthy debate. However, norm-referenced testing does not solve those problems but only ignores them. It is precisely because the judgments made in criterion-referenced testing are concrete and open to inspection, because the process of criterion-referenced testing is so readily comprehensible, that the procedures become open to questioning from many sides. In norm-referenced testing, the items rarely come under public scrutiny, but the judgments as to what represents appropriate content are made nevertheless.

It is arguable that the more open process is desirable even if it provokes debate--perhaps, indeed, this controversial aspect would turn out to be one of the virtues of CRTs. Clearly the relative merits of the two systems need greater study. Therefore:

> It is recommended that a randomly selected part of the Title I program, say a dozen school districts, be planned and evaluated in a "minimal competencies framework," employing criterion-referenced testing, for a period of three years following which time this experimental part of the program be evaluated in conjunction with an equivalent control group in the Title I program which has continued to operate the Title I program on the basis of reliance on norm-referenced tests.

The minimal competencies framework consists of:

Rationale. Funds are used to ensure specified minimal competencies.

Needs assessment and program planning. Needs are assessed in terms of which minimal competencies pupils have or do not have. This assessment translates directly into individual plans for each pupil to be given instruction in the competencies he/she lacks.

Evaluation. The major outcome measure is the readily interpretable information as to the number of students achieving mastery of various minimal competencies, an outcome measure far more likely to show success than the kind of goals set for norm-referenced achievement tests.

Reading About Tutoring

The following CSE Reports on Tutoring are available from the Center for the Study of Evaluation, UCLA Graduate School of Education, 145 Moore Hall, Los Angeles, California 90024.

A. The Learning-Tutoring Cycle: An Overview

An overview of the entire project and recommendations for actions which are designed to put the ideas of this study to the test--to see if the Learning-Tutoring Cycle can indeed significantly improve the educational attainment of disadvantaged students.

#1. Setting up and Evaluating Tutoring Projects

A listing and explanation of decisions that must be made at each school site when a tutoring project is started. Pros and cons for each decision are presented for discussion. A step-by-step outline of evaluation activities is included.

#2. Tutoring and ESEA Title I*

A guide to setting up a tutoring project that conforms to Title I requirements and benefits both secondary and elementary school students. Of particular interest to Title I planners, parents, teachers and district personnel.

#3. A Survey of Tutoring Projects

A nationwide survey of tutoring projects and a description of site visits to some existing tutoring projects.

#4. Tutoring: Some New Ideas

Description of a specific approach to tutoring in which the focus is on the learning and motivation of the tutors. Included also are ideas on expansion of tutoring to provide significant educational alternatives, as in a School-Within-A-School project. The reactions of teachers to the ideas are documented.

#5. An Analysis of the Literature on Cross-Age Tutoring

A literature review that examines both laboratory studies and in-school programs to identify important issues in tutoring.

#6. Tutoring and Social Psychology: A Theoretical Analysis

An examination of tutoring from the perspective of social psychology. Presents operationalized hypotheses that researchers might test.

*This report you are presently reading

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